

Reply to Office Action dated September 8, 2009

REMARKS/ARGUMENTS

Favorable reconsideration and allowance of the present application is respectfully requested. Claims 1-21 are pending in the above application, of which, claim 1 is independent.

The Office Action dated September 8, 2009, has been received and carefully reviewed. In that Office Action, claims 1-21 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. In addition, claims 1-19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Shibagaki in view of a machine translation of JP 2002-295991 (hereinafter, "Ozawa"), claims 1-19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Shibagaki in view of an English language abstract of CN 1305086 (hereinafter "Tetsu"), and claims 20 and 21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Shibagaki and Tetsu and further in view of Evans. Objections to the specification were also raised. It is believed that all claims patentably distinguish over the art of record, and reconsideration and allowance of all claims is respectfully requested in view of the above amendments and the following remarks.

SPECIFICATION

By the above amendment, the specification has been amended to cancel the paragraph that referred to the claims. In addition, section headings have been added to the specification, the phrase "consisting of" has been changed to "comprising" in two places and the abstract of the disclosure has been amended to remove legal terms such as "comprising." No new matter has been added.

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REJECTIONS UNDER 35 U.S.C. 112, SECOND PARAGRAPH

By the above amendment, the claims identified by the examiner have been amended to remove the terms "particular" and "preferable" and the phrase "or the like." The withdrawal of the claim rejections under 35 U.S.C. 112, second paragraph, is respectfully requested.

REJECTIONS UNDER 35 U.S.C. 103(a)

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shibagaki in view of Ozawa. Claim 1 as amended, recites an apparatus for exchanging heat having a number of structural elements and cohesive joins between various ones of the elements. Claim 1 further recites that at least the connections in which material forming a cohesive join is substantially directly exposed to a flow of a first fluid comprise a first connecting material, and connections in which the material which forms a cohesive join is indirectly exposed to the flow of the first fluid comprise a second connecting material different than the first material. The Office Action cites Shibagaki to show an apparatus for exchanging heat having a structure generally similar to the structure recited in claim 1. However, Shibagaki does not show or suggest first and second materials which form cohesive joins as recited in claim 1.

The Office Action indicates that it would be obvious to modify Shibagaki based on the teachings of Ozawa in order to produce the invention of claim 1. From the machine translation of Ozawa, it appears that Ozawa teaches the use of a first brazing or soldering material for a "high-temperature gas side" of a heat exchanger, which is exposed to a first fluid, and a second brazing or soldering material for the "cooling water

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side" of the heat exchanger, which is exposed to a second fluid. Thus, Ozawa appears to show connections that are directly exposed to a first fluid and connections that are directly exposed to a second fluid. Ozawa does not, however, show connections that are indirectly exposed to the first fluid and formed of the second material as would seem to be required under the interpretation of Ozawa being used by the examiner. Ozawa's only teaching is to use different solders in hot and cold environments, but not that certain joins exposed indirectly to a hot and/or corrosive fluid should be formed from a second material. Therefore, nothing in Ozawa suggest modifying Shibagaki to use a second material to form joins that are indirectly exposed to a first flow of material as recited in amended claim 1. Claim 1 is submitted to be allowable over Ozawa for at least this reason.

Claims 2-21 depend from Ozawa and are submitted to be allowable for at least the same reasons as claim 1.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shibagaki in view of Tetsu. The English language abstract of Tetsu discusses a first solder for adjacent heat transfer plates that define a first heat transfer medium passage and a second solder for joining adjacent heat transfer plates that define a second heat transfer medium passage. However, nothing in this abstract discusses the materials from which the different solders are formed (and the English translation of a Chinese Office Action of record in this case is not prior art). Furthermore, nothing in Tetsu suggests that joins exposed indirectly to a first fluid should be formed of a second material as recited in amended claim 1, and claim 1 is submitted to be allowable over Shibagaki and Tetsu for at least this reason.

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If the rejection of claim 1 based on Shibagaki and Tetsu is maintained, it is respectfully requested that the examiner make of record a full English translation of Tetsu if any teachings beyond those of the English language abstract of Tetsu are being relied upon to support the rejection.

Claims 2-21 depend from claim 1 and are submitted to be allowable for at least the same reasons as claim 1.

Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibagaki in view of Tetsu and further in view of Evans. Claims 20 and 21 depend from claim 1. Evans does not address the shortcomings of Shibagaki and Tetsu discussed above in connection with claim 1. Claims 20 and 21 are therefore submitted to be allowable for at least the same reasons as claim 1.

CONCLUSION

Each issue raised in the Office Action dated September 8, 2009, has been addressed, and it is believed that claims 1-21 are in condition for allowance. Wherefore, reconsideration and allowance of these claims is earnestly solicited. If the examiner believes that any additional changes would place the application in better condition for allowance, the examiner is invited to contact the undersigned attorney at the telephone number listed below.

Deposit Account Authorization

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 50-3828 and please credit any excess fees to such deposit account.

Respectfully submitted,



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Date: November 24, 2009